

American Ginseng

Tennessee Department of Agriculture, Division of Forestry



American ginseng is a valuable forest crop. The price of dried wild ginseng root has ranged from a high of \$500 to a low of \$125/lb. in the last few years

Because of its high economic value wild American Ginseng is protected under the convention on International Trade of Endangered Species of Wild Fauna and Flora of 1973 (CITES). The State of Tennessee, under the auspices of the US Fish and Wildlife Service, monitors controls and restricts trade, as necessary, to prevent depletion of native populations.

Ginseng must be harvested according to state regulations of the Ginseng Program (TDEC division of natural heritage, phone 615-532-0431.) Rules of note:

- Harvest season is August 15 to December 31.
- Plants must have at least 3 "prongs" (compound leaves.)
- The seeds must be planted in the vicinity of the harvested plant.
- No permit is required to harvest ginseng.
- Dealers must be licensed.
- "Sangers" MUST have landowners' permission.

Ginseng grows in mature hardwood forests on rich, loamy, moist but well-drained forest soil high in organic matter. Ginseng prefers deep (75%+) shade, most often on the lower portions of north and east slopes. It usually occurs in association with Jack-in-the-pulpit, Indian turnip, trillium, mayapple, Solomon's seal, jewel weed, wild yam, hepatica, black cohosh, wild ginger, galax, yellowroot and bloodroot.

Ginseng can be grown as *wild-simulated*, *woodsgrown* or *field cultivated*. This bulletin will focus on wild-simulated and woodsgrown.

To grow wild-simulated ginseng, randomly plant seeds or roots on a suitable forest site. No pesticides, herbicides or fertilizers are used.

Woodsgrown ginseng is grown in beds on suitable forest sites. This requires tillage, and may require use of pesticides, herbicides and fertilizer.

Field-cultivated ginseng is a full-fledged agricultural crop grown in fertilized beds in artificial shade. This method is highly technical. See references at end of this bulletin.

Economics. Pound for pound, wild and wild-simulated ginseng root sells for up to 3 times as much as woodsgrown and 10 times as much as field-cultivated. However, the per-acre yield of field-cultivated is perhaps 3 times that of woodsgrown, and many times that of wild-simulated root. Under ideal circumstances, field growing can yield 3,000 lb./ac. Each system requires different investments and involves different risks.

Woodsgrown beds should go up and down hill for good drainage and should be slightly crowned. Work in well-decomposed organic matter and fine raw bonemeal or rock phosphate (1 lb./sq. yd.). Ginseng likes soil high in calcium, but add it in the form of gypsum (calcium sulfate), not lime (calcium carbonate) to keep pH down to an optimal 5.0 to 5.5. A higher pH can predispose ginseng to fungal attack. Excessive soil nitrogen can also encourage fungi and make wild or wild-simulated root look like field-cultivated.

Beds may need to be dug repeatedly the summer prior to planting to control weeds.

Planting tips. Ginseng can be grown from seed, seedlings or roots. Planted roots or

seedlings will provide a seed source. 1, 2 or 3-year old roots can be purchased. 3-year old roots may begin bearing seeds the next season. Set out roots or transplant between October and April, preferably in the fall. Plant so that the bud is 2" below the surface. Plant immediately if possible. Otherwise, roots can be stored for a couple of days in plastic bags. Seal, but ventilate daily; add a few drops of water if roots look dry. To store long-term, either bury under 4-6" of soil outdoors, or layer with unmilled sphagnum peatmoss and store in a non-airtight container in the refrigerator, basement or other cool location.

Ginseng seed must remain moist. Seed must be stratified (undergo cooling/heating cycles) for 18-20 months. If left to stratify on their own, seeds are at risk of being eaten. By gathering and stratifying seed in a container you will obtain far more seedlings.

To stratify seed, remove seeds from the fruit (preferable but not essential). Form a pouch out of fine aluminum screen. Layer sand and seed (2/3 sand by volume) and fasten shut; bury 4-5 inches deep on a good ginseng site on a north slope. Mulch with several inches of leaves; mark the spot. Check in spring and periodically during dry weather. Cull rotten seeds, plant any that are sprouting, stir the rest, make sure sand is moist, rebury. Plant seeds in fall.

Fermentation is an easy way to extract large amounts of seed. Mash the berries in the bottom of a bucket, cover and allow them to sit in the shade for 3-5 days, stirring every day. Spray with water, let settle 30 seconds, and pour off water including floating seeds. Repeat until seeds are clean. Air-dry seed surfaces. Do not allow seed interiors to dry.

Stratified and non-stratified ("green") seed can be purchased. Stratified seed costs

twice as much, but it sprouts the next spring.

Plant seed ½-1" deep, 6 to 12 inches apart. Late summer to the first hard freeze is best. Spring planting further protects seeds from being eaten, but it is risky because spring conditions vary so much. Spring planting must be done by mid-April.

Mulch with a couple of inches of hardwood leaves or well-rotted sawdust; remove mulch in the spring. Do not use oak or pine sawdust. Mulching is also recommended during hot dry weather.

Seeds versus roots as a crop. Seeds are a valuable part of the crop, but if you are not harvesting seeds, you can maximize root growth by nipping flower buds.

Pests. Fungi may be a problem with cultivated plants. Fungicides can be used, but prevention is the best cure. Drainage and air circulation are important. Select a sloping, well-drained site. Mix in composted hardwood bark. Clear away brush. Rotate ginseng with other crops like yellowroot, or let beds lie fallow. Plant at wide spacing and grow several separate small plots rather than one large area. Keep pH near 5.5; nitrogen levels should be neither too high nor too low.

Squirrels, mice, moles, turkey, deer and livestock can be a problem. Woven fences with electrified wire on top, or woven fence arched over beds, will help deter large animals. Rodents often use mole runs to access ginseng. Chicken wire or a similar material buried to a depth of 18" can help control moles and rodents, as can traps and cats.

Digging. Only whole roots are acceptable in the trade. Get as much of the root system as possible, including small feeder roots, to maximize price. Start digging 6" or so from the plant. While 3-prong plants are legal, they bring less than older plants, and are best left in the ground. Wash dirt off, but do not scruff or damage the root. Soil stains can actually increase value.

Do not dig early in the season. Allow the root to grow as much as possible during the summer and early fall.

Wild-simulated and woodsgrown ginseng requires 6-8 years to reach harvestable size if grown from unstratified seed, or 4-6 years if grown from stratified seed.

Drying and storage. Dry on a rack with good air circulation at 90 degrees (not over 95 degrees.) A well-ventilated attic may work well. Do not dry in an oven or

microwave. Store in cardboard barrels or boxes in a cool dry place. Guard against rodents and insects.

Protection. Poaching ginseng is illegal but common. Post your property. Other options include electric fences, guard dogs, cutting tops after berries ripen, and telling no one you grow ginseng.

More information:

Persons, Scott W. 1994. American Ginseng: Green Gold (revised edition). Bright Mountain Books, Inc., Asheville, NC 201 p. ISBN 0-914875-23-X.

Pritts, Kim Derek, 1995. Ginseng: How to Find, Grow and Use America's Forest Gold. Stackpole Books. 160 p. ISBN 0-11724778

Duke, James A. 1989. Ginseng: a Concise Handbook. Reference Publications, Inc., Algonac MI 273 p ISBN 0-917256-32-8

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